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December 14, 2012

VIA ELECTRONIC FILING
Jocelyn Boyd, Esquire
Chief Clerk and Administrator
South Carolina Public Service Commission
101 Executive Center Drive
Columbia, SC 29210

RE: Application of Tega Cay Water Service, Inc. for Adjustment of Rates and Charges and Modifications of Certain Terms and Conditions for the Provision of Water and Sewer Service
Docket No. 2012-177-WS

Dear Ms. Boyd:

Enclosed please find for filing the following Rebuttal Testimony in the above-referenced docket:

1. Rebuttal Testimony of Steven M. Lubertozzi;
2. Rebuttal Testimony of Karen L. Sasic with Exhibit 1;
3. Rebuttal Testimony of Pauline M. Ahern with Exhibit 1.

By copy of this letter, I am serving all parties of record.

If you have any questions or if I may provide you with any additional information, please do not hesitate to contact me.

Sincerely,

Elliott & Elliott, P.A.

Scott Elliott

SE/mjl
Enclosures
cc: All parties of record w/enc.

Tega Cay Water Service, Inc.
Docket No. 2012-177-WS

BEFORE THE

PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

PREPARED REBUTTAL TESTIMONY

OF

STEVEN M. LUBERTOZZI, CPA
UTILITIES, INC.

ON BEHALF OF

TEGA CAY WATER SERVICE, INC.

DECEMBER 14, 2012

TABLE OF CONTENTS

Introduction

Q. Please state your name, occupation and business address.

A. My name is Steven M. Lubertozzi. I am employed as the Executive Director of Regulatory Accounting and Affairs at Utilities, Inc. ("UI"), through its shared services organization, 2335 Sanders Road, Northbrook, Illinois 60062.

Q. Are you the same Steven M. Lubertozzi who previously submitted prepared direct testimony in this proceeding?

A. Yes, I am.

Purpose

Q. What is the purpose of this testimony?

A. The purpose of my testimony is to rebut Douglas H. Carlisle recommendation to reduce Tega Cay Water Service, Inc.'s (Tega Cay or the Company) return on common equity and to discuss the overall revenue requirement of Tega Cay.

Long-Term Debt Cost Rate

Q. Dr. Carlisle states on page 13, lines 19 through 21 that Tega Cay's cost of long-term debt is unreasonable. Do you agree with Dr. Carlisle's opinion?

A. No, I do not. As discussed in more detail in Dylan D'Ascendis' testimony, the cost of UI's long-term debt was in line with market rates at the time it was acquired in 2006.

Q. Is Dr. Carlisle recommending that the Commission reduce Tega Cay's cost of long-term debt in this proceeding?

A. Due to the high cost of refinancing UI's long-term debt I don't believe that Dr. Carlisle is recommending a reduction to Tega Cay's cost of long-term debt.

However, Dr. Carlisle suggests that the Commission "weigh the issue" of Tega Cay's long-term debt and therefore reduce Tega Cay's cost of common equity by 60 basis points.

Q. What is the cost of refinancing UI's long-term debt?

A. UI's long-term debt contains make-whole provisions and pursuant to those terms UI would need to refinance the entire $180 million and the present value of all future payments, which total $83.1 million as of February 2012. Therefore, at a minimum UI would need to refinance $263.1 million which does not include the cost of actually refinancing.

Q. Was this information provided to ORS?

A. Yes the make-whole information was provided to the ORS in response to Audit Request No. 12.

Q. Are you aware of any other Commission punishing a utility company by reducing its cost of common equity for entering into a market prices cost of long-term debt?

A. No I am not.

Q. How would the capital markets react to an imputed lower cost of equity based on Dr. Carlisle speculative reasoning?

A. Any reduction will not be well received. Dr. Carlisle's only justification for his recommendations is generic market comparisons. He does not point to any evidence that UI's decisions in 2006 were not prudent. As Tega Cay witness Dylan D'Ascendis explains in his rebuttal testimony, Dr. Carlisle cites to some

utility companies that apparently enjoy lower interest rates; but his testimony amounts to mere generalization.

If the Commission were to agree with Dr. Carlisle, it would render any regulated utility in this state vulnerable to this kind of rear-view mirror speculation, and lenders will take notice. Furthermore, the returns on equity being authorized in South Carolina for UI's operating subsidiaries are already among the lowest in the states in which UI operates. Additionally, many of Tega Cay's sister company's operating in South Carolina rate cases have been denied all rate relief. Therefore, any lender or investor would be hesitant to lend capital that may end up being deployed in South Carolina because these lenders or investors are looking for consistent, reliable and transparent capital recovery.

Q. What is your recommendation to this Commission as it pertains to cost of long-term debt and the idea that the Commission "weigh the issue" by lowering Tega Cay's ROE?

A. My recommendation is that the Commission ignore Dr. Carlisle's attempt to reduce Tega Cay's cost of common equity based on speculation. Additionally, I believe that the Commission should set the cost of common equity as recommended by Pauline Ahern to further encourage additional investment in South Carolina.

Overall Financial Performance

Q. Have you reviewed ORS' testimony and supporting schedules?

A. Yes I have.

Q. Did ORS recommend a revenue requirement based on all of their adjustments?

A. No they have not.

Q. Have you calculated a revenue requirement using all of ORS' adjustments?

A. No I have not. However, I did calculate a revenue requirement using all of ORS' adjustments except cost of equity.

Q. What is the resulting revenue requirement, increase only, when using all of ORS adjustments, except cost of equity?

A. Using a 10.86% return on equity and assuming that the Commission accepts all of ORS' adjustments, which I don't believe they should, the resulting revenue increase is approximately $395,000. The $395,000 includes both water and wastewater revenue and represents a 32% overall increase.

Q. Did the Company calculate a revenue requirement assuming the Commission accepts all of Tega Cay's recommendations and adopts Pauline Ahern's return on common equity of 10.86%?

A. Yes we have.

Q. Can you please tell the Commission the resulting revenue increase from that calculation?

A. Yes I can. Using a 10.86% return on equity and assuming that the Commission accepts all of Tega Cay' recommendations the resulting revenue increase is approximately $470,000 as more fully addressed in Kirsten Markwell's testimony and supporting schedules. The $470,000 includes both water and wastewater revenue and represents a 39% overall increase.

Q. Does that conclude your rebuttal testimony?

A. Yes.

BEFORE

THE PUBLIC SERVICE COMMISSION

OF SOUTH CAROLINA

DOCKET NO. 2012-177-WS

IN RE: Application of Tega Cay Water Service, Inc. for Adjustment of Rates and Charges and Modifications to Certain Terms and Conditions for the Provision of Water and Sewer Service	**REBUTTAL TESTIMONY** **OF** **KAREN SASIC**

Q. ARE YOU THE SAME KAREN SASIC THAT HAS PREFILED DIRECT TESTIMONY IN THIS CASE?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS PROCEEDING?

A. The purpose of my rebuttal testimony is to respond on behalf of Tega Cay Water Service, Inc., to the testimony of ORS witness Willie J. Morgan.

Q. HAVE YOU REVIEWED THE PRE-FILED TESTIMONY OF MR. WILLIE J. MORGAN ON BEHALF OF ORS IN THIS MATTER?

A. Yes, I have reviewed his testimony.

Q. DO YOU AGREE WITH THE PROCESS RECOMMENDED BY MR. MORGAN'S TESTIMONY FOR THE COLLECTION OF DELINQUENT ACCOUNTS?

A. Yes, I agree with Mr. Morgan's collection process recommendation as Tega Cay is already contacting many of our delinquent customers by telephone.

Q. CAN YOU DESCRIBE THE METHODS USED BY TEGA CAY TO CONTACT DELINQUENT CUSTOMERS?

A. Yes. In January 2011, Collections Specialists began making live calls in an attempt to reach customers with the highest debt before they are sent to the collection

agency and written off to bad debt. We further improved this process by launching an automatic dialer in March 2012 to phone customers prior to severance of their utility service. The automatic dialer is programmed to play a pre-recorded message giving the customers an option to speak to a customer service representative immediately or to telephone back at a later time to discuss their account.

Q. DO YOU AGREE WITH MR. MORGAN'S TESTIMONY THAT TEGA CAY IS OUT OF COMPLIANCE WITH COMMISSION REGULATIONS REGARDING THE BILL FORM?

A. No, I do not. Mr. Morgan's Business Office Compliance Review indicates Tega Cay is out of compliance with R.103-532 and R.103-732 which requires the bill form to include the applicable rate schedule or a statement that the applicable rate schedule is available upon request of the customer. In September 2011, the bill stock was revised with Tega Cay's bill print vendor to include the statement "Rate schedule available upon request" on the reverse side of the customer bill. See Exhibit KLS-1.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

BEFORE

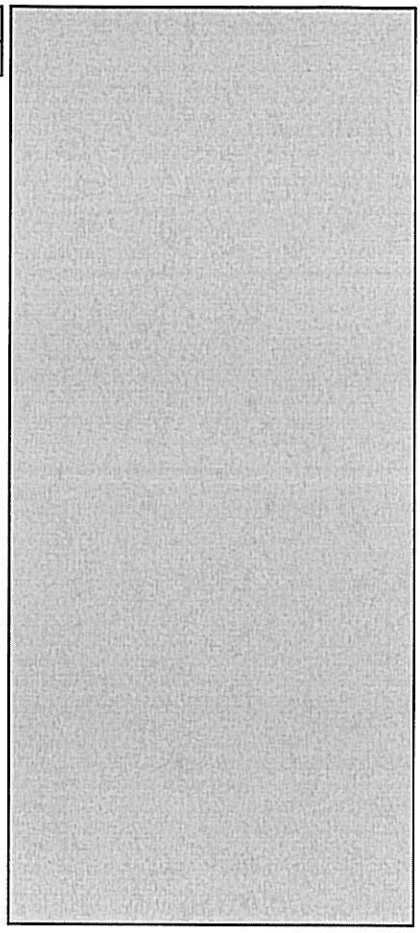
THE PUBLIC SERVICE COMMISSION

OF SOUTH CAROLINA

DOCKET NO. 2012-177-WS

IN RE: Application of Tega Cay Water Service, Inc. for Adjustment of Rates and Charges and Modifications to Certain Terms and Conditions for the Provision of Water and Sewer Service	)))))	**EXHIBIT 1 TO REBUTTAL TESTIMONY OF KAREN L. SASIC**

Utilities, Inc.



Utilities, Inc.

Important Information to Help Serve You Better

Security	To help us maintain the security surrounding your drinking water system, please call your local office listed on the front of your bill and the police if you notice any suspicious activity.
Service	If you experience a water or wastewater emergency, please call the Customer Service number listed on the front of your bill. Service operators are on-call 24 hours a day, 7 days a week. Information, including how your water meter is read, can be found at **www.uiwater.com** or you may call your office office, at the number listed on the on the front of your bill.
Contact Information	Please be sure to let us know if your telephone number changes. We strive to offer efficient and responsible customer service. In the event that we encounter a problem in your water or wastewater system, we will need to contact you. To update your account information, you may call the Customer Service number listed on the front of your bill, or you may visit our website at **www.uiwater.com** or use the form below.
Rate Information	Rate schedule available upon request.

Conservation Tips

Check your toilet. Low-flow models use 1.6 gallons per flush and newhigh-efficiency toilets use 1.0 to 1.28 gallons per flush, while older models use 3-7 gallons to flush a toilet. Leaking toilets waste as much as 200 gallons each day or 73,000 gallons per year.
Find out if you have a leak in your home. Read your water meter before and after a one-hour period when no water is being used. Wait for the water heater and ice-cube makers to refill, and for regeneration of water softeners. If the readings are different after the one-hour period, you have a leak that should be investigated further.

Go Green!

Web Self Service and Paperless Billing Options. We are committed to delivering excellent customer service to all of our customers and are pleased to offer web self-service and paperless billing options to our customers.
Sign up today by visiting **www.uiwater.com/myaccount.php.**

Payment Methods

Automatic Payments	Why write a check and pay postage? Make your payments automatically with Auto Pay. Contact us at the Customer Service number listed on the front of your bill or visit **www.uiwater.com** to download the Auto Pay Authorization form.
By Internet	Pay your bill online by visiting **www.uiwater.com/customer_center/pay_online.php.** Please be sure to have your account number ready. A convenience fee will be charged for using this option.
By Phone	Make payments using your checking account, debit or credit card by calling **1-877-527-7852.** Please be sure to have your utility account number ready. A convenience fee will be charged for using this option.
By Mail	Use the enclosed envelope to mail your payment.

Change of Address and Phone Information

Complete the information below with your address and phone corrections and return with your payment

Name _____
Please Print

Street _____

City _____ State _____ Zip _____

Home Phone _____ Work Phone _____

Email Address _____

Tega Cay Water Service, Inc.
Cause No. 2012-177-WS

BEFORE THE

PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

PREPARED REBUTTAL TESTIMONY

OF

PAULINE M. AHERN, CRRA
PRINCIPAL
AUS CONSULTANTS

ON BEHALF OF

TEGA CAY WATER SERVICE, INC.

DECEMBER 14, 2012

TABLE OF CONTENTS

Introduction

Q. Please state your name, occupation and business address.

A. My name is Pauline M. Ahern and I am a Principal of AUS Consultants. My business address is 155 Gaither Drive, Suite A, Mt. Laurel, New Jersey 08054.

Q. Are you the same Pauline M. Ahern who previously submitted prepared direct testimony in this proceeding?

A. Yes, I am.

Q. Have you prepared an exhibit which supports your rebuttal testimony?

A. Yes, I have. It has been marked for identification as Exhibit No. PMA-2 and consists of Schedule 1R.

Purpose

Q. What is the purpose of this testimony?

A. The purpose of this testimony is to rebut certain aspects of the direct testimony of Douglas H. Carlisle, witness for the Office of the Regulatory Staff (ORS). Specifically, I will address Dr. Carlisle's use of multiple proxies for growth in his Discounted Cash Flow Model (DCF); his application of the Comparable Earnings Model; his failure to reflect the risk of Tega Cay Water Service, Inc. (Tega Cay or the Company) capital structure and small size in his common equity cost rate recommendation; as well as his adjustment to the return on common equity to reflect a 6.00% long-term debt cost rate.

Discounted Cash Flow Model (DCF)

Q. On page 6, lines 10-13 of his direct testimony, Dr. Carlisle discusses his use of various historical measures of growth in his DCF. Please comment.

A. Dr. Carlisle used historical measures of growth in earnings per share (EPS), book value per share (BVPS), sales/revenue and dividends per share (DPS). As discussed in my prepared direct testimony at page 26, line 11 through page 27, line 5, it is appropriate to rely exclusively upon security analysts' forecasted growth rates in EPS which Dr. Carlisle did note that he relied upon, in part, on page 7 at lines 21 and 22.

The DCF model utilized by both Dr. Carlisle and myself is market-based since market prices are employed in its application. Therefore, it is based upon the Efficient Market Hypothesis (EMH) which is the foundation of modern investment theory. The EMH was pioneered by Eugene F. Fama[1] in 1970. As discussed in my prepared direct testimony on page 22, line 9 through page 23, line 9, an efficient market is one in which security prices reflect all relevant information all the time. This implies that prices adjust instantaneously to new information, thus reflecting the intrinsic fundamental economic value of a security.[2]

The three forms of the EMH are:

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1 Eugene F. Fama, "Efficient Capital Markets: A Review of Theory and Empirical Work" (Journal of Finance, May 1970) 383-417.

2 Eugene F. Brigham, Fundamentals of Financial Management, Fifth Edition (The Dryden Press, 1989) 225.

A. The "weak" form which asserts that all past market prices and data are fully reflected in securities prices, i.e., technical analysis cannot enable an investor to "outperform the market".

B. The "semistrong" form which asserts that all publicly available information is fully reflected in securities prices, i.e., fundamental analysis cannot enable an investor to "outperform the market".

C. The "strong" form which asserts that all information, both public and private, is fully reflected in securities prices, i.e., even insider information cannot enable an investor to "outperform the market".

The "semistrong" form of the EMH is generally held to be true because the use of insider information often enables investors to "outperform the market" and earn excessive returns. The generally-accepted "semistrong" form of the EMH means that all perceived risks are taken into account by investors in the prices they pay for securities. Investors are aware of all publicly-available information, including bond ratings; discussions about companies by bond rating agencies and investment analysts; as well as the various securities analysts' forecast of growth in EPS and the academic/empirical literature which supports their superiority for their use in a DCF application. This means that it is appropriate to rely upon such growth rates in a DCF analysis.

Q. Please discuss the academic/empirical literature which supports the superiority for their use of security analysts' forecasts of growth in EPS.

A. Earnings expectations have a significant influence on market prices and the "appreciation" or "growth" experienced by investors. Morin notes[3]:

> Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their

[3] Roger A. Morin, New Regulatory Finance (Public Utilities Reports, Inc., 2006) 298.

> own forecasts, that is, they are a cause of g. The accuracy of these forecasts in the sense of whether they turn out to be correct is not at issue here, as long as they reflect widely held expectations. As long as the forecasts are typical and/or influential in that they are consistent with current stock price levels, they are relevant. The use of analysts' forecasts in the DCF model is sometimes denounced on the grounds that it is difficult to forecast earnings and dividends for only one year, let alone for longer time periods. This objection is unfounded, however, because it is present investor expectations that are being priced; it is the consensus forecast that is embedded in price and therefore in required return, and not the future as it will turn out to be.

* * *

> Published studies in the academic literature demonstrate that growth forecasts made by security analysts represent an appropriate source of DCF growth rates, are reasonable indicators of investor expectations and are more accurate than forecasts based on historical growth. These studies show that investors rely on analysts' forecasts to a greater extent than on historic data only.

In addition, Myron Gordon, the "father" of the standard regulatory version of the DCF model widely utilized by both Dr. Carlisle and myself in this proceeding, recognized the significance of analysts' forecasts of growth in EPS in a speech he gave in March 1990 before the Institute for Quantitative Research and Finance. He said:

> We have seen that earnings and growth estimates by security analysts were found by Malkiel and Cragg to be superior to data obtained from financial statements for the explanation of variation in price among common stocks. . . estimates by security analysts available from sources such as IBES are far superior to the data available to Malkiel and Cragg. Eq (7) is not as elegant as Eq (4), but it has a good deal more intuitive appeal. It says that investors buy earnings, but what they will pay for a dollar of earnings increases with the extent to which the earnings are reflected in the dividend or in appreciation through growth.

Professor Gordon recognized that total return is largely affected by the terminal

price which is mostly affected by earnings (hence price / earnings multiples).

Studies performed by Cragg and Malkiel[4] demonstrate that analysts' forecasts are superior to historical growth rate extrapolations. Some question the accuracy of analysts' forecast of EPS growth, however, it does not really matter what the level of accuracy of those analysts' forecasts is well after the fact. What is important is that they reflect widely held expectations influencing investors at the time they make their pricing decisions and hence the market prices they pay.

In addition, Jeremy J. Siegel also supports the use of security analysts' EPS growth forecasts when he states[5]:

> For the equity holder, the source of future cash flows is the earnings of firms. (p. 90)
>
> * * *
>
> Some people argue that shareholders most value stocks' cash dividends. But this is not necessarily true. (p. 91)
>
> * * *
>
> Since the price of a stock depends primarily on the present discounted value of all expected future dividends, it appears that dividend policy is crucial to determining the value of the stock. However this is not generally true. (p. 92)
>
> * * *
>
> Since stock prices are the present value of future dividends, it would seem natural to assume that economic growth would be an important factor influencing future dividends and hence stock prices. However, this is not necessarily so. The determinants of stock prices are earnings and

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4 Cragg, John G. and Malkiel, Burton G., Expectations and the Structure of Share Prices (University of Chicago Press, 1982) Chapter 4.

5 Jeremy J. Siegel, Stocks for the Long Run – The Definitive Guide to Financial Market Returns and Long-Term Investment Strategies, McGraw-Hill 2002 90-94.

> dividends on a *per-share* basis. Although economic growth may influence *aggregate* earnings and dividends favorably, economic growth does not necessarily increase the growth of per-share earnings of dividends. It is earnings per share (EPS) that is important to Wall Street because per-share data, not aggregate earnings or dividends, are the basis of investor returns. (italics in original) (pp. 93-94)

As stated above, the "semistrong" form of the EMH, which is generally held to be true, indicates investors are aware of all publicly-available information, including the many security analysts' earnings growth rate forecasts available. Investors are also aware of the accuracy of past forecasts, whether for EPS or DPS growth or for interest rates levels. Investors have no prior knowledge of the accuracy of any forecasts available at the time they make their investment decisions, as that accuracy only becomes known after some future period of time has elapsed. Therefore, given the overwhelming academic/empirical support regarding the superiority of security analysts' EPS growth rate forecasts, such EPS growth rate projections should be relied upon in a cost of common equity analysis.

Therefore, consistent with the EMH upon which the DCF model utilized by both Dr. Carlisle and myself are predicated, since investors have such analysts' earnings growth rate projections available to them and investors are aware of the superiority of such projections, analysts' projections of EPS growth should receive significant, if not exclusive weight in a DCF analysis. Dr. Carlisle would like us to ignore reality by disregarding the largest influence on individual investors who own approximately 52% on average (see Schedule 7 of Exhibit PMA-1), of all the common stock shares of the companies in my proxy group. Rate of return analysts, such as Dr. Carlisle and myself who attempt to emulate

investor behavior, should not ignore this reality.

Q. What would Dr. Carlisle's DCF result have been had he correctly relied upon security analysts' forecasted growth in EPS?

A. Using the average dividend yield for his proxy group 3.13% (from page 1 of Exhibit DHC-6) and a corrected average security analysts' forecasted growth in EPS of 7.40%[6] (derived from page 3 of Exhibit DHC-6), a DCF derived common equity cost rate of 10.76% results.[7]

Comparable Earnings Model (CEM)

Q. Dr. Carlisle's CEM analysis utilized two groups of companies. Please comment.

A. Dr. Carlisle's CEM analysis evaluated growth in book value for two groups of companies. One is a group of companies selected from *Value Line Investment Survey* (*Value Line*) and the second group is the proxy group of nine water companies. Neither of these groups is appropriate for a CEM analysis. Dr. Carlisle's selection criteria for the companies selected from *Value Line* do not encompass measures of comparable total risk. Second, as noted in my direct testimony at page 40, lines 9-13, a group selected for a CEM analysis should exclude utilities to avoid circularity, caused by the fact that the returns as well as the growth in the book value of utilities is a function of the regulatory process.

There is no basis to conclude that his group of 144 *Value Line* companies is comparable in total risk to the nine water companies. His criteria, as outlined

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[6] Excludes the 0.00% *Value Line Investment Survey* projected growth in EPS and the negative 0.84% Yahoo projected growth in EPS for Connecticut Water Service.

[7] 10.76% = (3.13% * (1 + (7.40%/2)) + 7.40%).

on page 10, lines 20-25 of his direct testimony, were that the companies not be foreign, financial or utility companies as indicated by *Value Line*; have betas within the range of 0.15 below the minimum beta of the nine water companies and 0.15 above the maximum beta for the group; and, have a 10-year BVPS growth rate and a projected BVPS growth rate. In my opinion, this is not a set of criteria that would result in a group of companies comparable in total risk to his proxy group of water companies as it encompasses only one measure of risk, beta, which is a measure of only systematic or market risk.

The selection for my cost of common equity analysis of domestic non-price regulated companies are based upon measures of total risk, resulting in the selection of non-price regulated companies which are comparable in total risk to the nine water companies. As explained in my direct testimony at page 40, line 14 through page 41, line 6, comparable betas result in companies comparable in non-diversifiable, market (systematic) risk, while comparable standard errors of the regressions giving rise to those betas result in companies which are comparable in diversifiable, non-market risk (non-systematic). Business and financial risks may vary between companies, but if the collective average betas and standard errors of the regressions of the group of non-price regulated companies chosen as a proxy for the nine water companies are similar, then the total, or aggregate, combined non-diversifiable, systematic and diversifiable non-systematic risks are similar as noted in "Comparable Earnings: New Life for an Old Precept" provided in Exhibit PMA-2, Schedule 1R. *Thus, because the non-price regulated companies are selected based upon market data, they are*

comparable in total risk (even though individual risks may vary) to the proxy group of water companies. It is after all, total risk which is reflected in market prices which the comparable risk, non-price regulated, companies were selected.

In view of the foregoing, Dr. Carlisle's CEM analysis is not valid for consideration by this Commission as his selection criteria do not result in a group of companies of comparable risk to the proxy group of water companies. Since Dr. Carlisle and I use the same proxy group of water companies, a more appropriate group of domestic, non-price regulated company analysis is the one provided in my direct testimony on pages 39-44 and presented in Schedules 11 and 12 of Exhibit PMA-1 which results in a more appropriate result of 13.00%, based upon projected returns on common equity from *Value Line* and the application of the DCF, Capital Asset Pricing Model (CAPM) and Risk Premium Model (RPM). Since the only other common equity cost rate models relied upon by Dr. Carlisle is the DCF, a corrected CEM analysis using the more comparable group in my analysis is the DCF result for that group, 11.48%.

Q. What range of common equity cost rates result from these corrections?

A. Based upon a corrected DCF of 10.76%, a properly applied CEM analysis of 11.48%, a range of common equity of 10.76% - 11.48% with a midpoint of 11.12%. However, this range misspecifies the common equity cost rate for Tega Cay as it does not reflect Tega Cay's greater relative risk due to its small size.

Size Adjustment

Q. Please discuss the risk implications of Tega Cay's small size relative to nine water companies. Does Dr. Carlisle's recommended range of common equity cost rate of 8.48% - 9.98% or corrected range of 10.77% - 11.48% adequately reflect the risk of Tega Cay's small size relative to the nine water companies?

A. No. As discussed on page 16, line 13 through page 18, line 13, it is conventional wisdom, supported by actual returns over time, that smaller companies tend to be more risky, causing investors to expect greater returns as compensation for that risk, consistent with the basic financial principle of risk and return. In other words, investors demand greater returns in order to bear greater risk. Another basic financial principle is that it is the use of the funds invested and not the source of those funds which gives rise to the risk of any investment. Since Tega Cay is the regulated utility to whose jurisdictional rate base the overall cost of capital allowed by the Commission in this proceeding will be applied, the relevant risk reflected in the cost of capital must be that of Tega Cay, including the impact of its small size on common equity cost rate.

Q. Please compare the size of Tega Cay with that of the nine water companies.

A. Since Dr. Carlisle and I have used the same proxy group, the study of the estimated market capitalization of Tega Cay relative to the proxy group presented in my direct testimony on page 45, line 34 through page 47, line 14 derived in Schedule 13 of Exhibit PMA-1 is relevant. That study resulted in an

upward business risk adjustment of 0.35% which, when added to Dr. Carlisle's financial risk-adjusted range of common equity cost rate of 8.48% - 9.98% derived above, results in a financial and business risk-adjusted range of 8.83% - 10.33%. When 0.35% is added to the corrected range of common equity cost rate of 10.76% - 11.48%, a business risk-adjusted range of 11.11% - 11.83% with a midpoint of 11.47% results. These corrected ranges confirm that Tega Cay's requested range of common equity cost rate of 10.80% - 11.30% is reasonable, if not conservative.

Long-Term Debt Cost Rate

Q. Please comment upon the relationship between the embedded long-term debt cost rate and the investor expected rate of return on common equity.

A. The investor expected rate of return on common equity is totally independent from and unrelated to the embedded long-term debt cost rate. The investor-expected rate of return is forward-looking, based upon current market data reflecting investors' collective perception of risk. On the other hand, the embedded long-term debt cost rate is a weighted debt cost of historical financing decisions. Hence, Dr. Carlisle's 60 basis point downward "adjustment" to his range of return on common equity "to reflect the rate of return Tega Cay would receive under a 6.00% long-term debt cost rate" as discussed on page 13 of his direct testimony and derived on Exhibit DHC-14 is flawed and should be rejected by the Commission.

Q. Please comment on how Dr. Carlisle's adjustment is flawed.

A. The calculations on Exhibit DHC-14 are merely a mathematical exercise which

has three critical errors inherent in it. First, by reducing the effective allowed return on common equity by 0.60%, Dr. Carlisle is implying that Tega Cay has less business risk than the very nine proxy water companies he relied upon precisely because they are of similar risk. This is clearly not the case because Tega Cay is significantly smaller, and hence more risky, than the nine proxy water companies as discussed previously.

Second, holding the overall rate of return constant, while manipulating the embedded long-term debt cost rate is invalid and contrary to a basic financial precept. Dr. Carlisle's range of recommended common equity cost rate is applicable to Tega Cay's proposed capital structure regardless of the embedded debt cost rate because it is partially a function of the risk inherent in Tega Cay's capital structure which Dr. Carlisle does not take issue with as summarized in the tables below. Table 1 below summarizes Dr. Carlisle's position on Tega Cay's overall rate of return using his recommended range of common equity cost rate and a 6.00% long-term debt cost rate.

Table 1

Using Dr. Carlisle's 6.00% Long-Term Debt Cost Rate and Recommended Range of Common Equity[1]

Type of Capital	Ratios	Cost Rate	Weighted Cost Rate
Long-Term Debt	50.25%	6.00%	3.02%
Common Equity	49.75	8.48% - 9.98%	4.22% – 4.96%
Total	100.00%		7.23% - 7.98%

[1] From page 1 and 3 of Exhibit DHC-14.

Therefore, the range of overall rate of return would actually rise because

the range of common equity cost rate would remain the same as summarized in Table 2 below:

Table 2

Using Tega Cay's 6.58% Long-Term Debt Cost Rate and Dr. Carlisle's recommended Range of Common Equity

Type of Capital	Ratios	Cost Rate	Weighted Cost Rate
Long-Term Debt	50.25%	6.58%	3.31%
Common Equity	49.75	8.48% - 9.98%	4.22% – 4.96%
Total	100.00%		7.53% - 8.27%

Third, there is an internal inconsistency to the calculation. Tega Cay's actual debt costs are based upon a 6.58% long-term debt cost rate. Dr. Carlisle has ignored this reality. As demonstrated in Table 3 below, what Exhibit DHC-14 actually demonstrates is that the overall rate of return of 7.23% - 7.98% applied to Tega Cay's proposed capital structure, using its actual, contractual 6.58% long-term debt cost rate results in an effective opportunity to earn an allowed return on common equity for Tega Cay of only 7.88% - 9.39. Such a range of allowed return on common equity grossly understates Tega Cay's common equity cost rate.

Table 3

Using Tega Cay's 6.58% Long-Term Debt Cost Rate and Incorrectly Holding the Overall Rate of Return Constant[1]

Type of Capital	Ratios	Cost Rate	Weighted Cost Rate
Long-Term Debt	50.25%	6.58%	3.31%
Common Equity	49.75	7.88% - 9.39%	3.92% – 4.67%
Total	100.00%		7.23% - 7.98%

[1] From page 1 and 3 of Exhibit DHC-14.

In effect, Dr. Carlisle is actually recommending a range of return on common equity cost rate of only 7.88% - 9.39% based upon Tega Cay's uncontested proposed capital structure.

Q. Does that conclude your rebuttal testimony?

A. Yes.

BEFORE

THE PUBLIC SERVICE COMMISSION

OF SOUTH CAROLINA

DOCKET NO. 2012-177-WS

IN RE: Application of Tega Cay Water Service, Inc. for Adjustment of Rates and Charges and Modifications to Certain Terms and Conditions for the Provision of Water and Sewer Service	)))))	**EXHIBIT 1 TO REBUTTAL TESTIMONY OF PAULINE M. AHERN**

FINANCIAL QUARTERLY
R · E · V · I · E · W

Comparable Earnings: New Life for an Old Precept

by
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Reprinted from the American Gas Association's *Financial Quarterly Review*
Summer 1994 edition, Arlington, Va.

Comparable Earnings: New Life for an Old Precept

Accelerating deregulation has greatly increased the investment risk of natural gas utilities. As a result, the authors believe it more appropriate than ever to employ the comparable earnings model. We believe our application of the model overcomes the greatest traditional objection to it — lack of comparability of the selected non-utility proxy firms. Our illustration focuses on a target gas pipeline company with a beta of 0.96 — almost equal to the market's beta of 1.00.

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Pauline M. Ahern is a senior financial analyst with AUS Consultants — Utility Services Group. She has participated in many cost-of-capital studies. A former employee of the U.S. Department of the Treasury and the Federal Reserve Bank of Boston, she holds an MBA degree from Rutgers University and is a Certified Rate of Return Analyst.

Introduction

The comparable earnings model used to determine a common equity cost rate is deeply rooted in the standard of "corresponding risk" enunciated in the landmark *Bluefield* and *Hope* decisions of the U.S. Supreme Court.[1] With such solid grounding in the foundations of rate of return regulation, comparable earnings should be accepted as a principal model, along with the currently popular market-based models, provided that its most common criticism, non-comparability of the proxy companies, is overcome.

Our comparable earnings model overcomes the non-comparability issue of the non-utility firms selected as a proxy for the target utility, in this example, a gas pipeline company. We should note that in the absence of common stock prices for the target utility (as with a wholly-owned subsidiary), it is appropriate to use the average of a proxy group of similar risk gas pipeline companies whose common stocks are actively traded. As we will demonstrate, our selection process results in a group of domestic, non-utility firms that is comparable in total risk, the sum of business and financial risk, which reflects both non-diversifiable systematic, or market, risk as well as diversifiable unsystematic, or firm-specific, risk.

Embedded in the Landmark Decisions

As stated in *Bluefield* in 1922: "A public utility is entitled to such rates as will permit it to earn a return ... on investments in other business undertakings which are attended by corresponding risks and uncertainties ..."

In addition, the court stated in *Hope* in 1944: "By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks."

Thus, the "corresponding risk" precept of *Bluefield* and *Hope* predates the use of such market-based cost-of-equity models as the Discounted Cash Flow (DCF) and Capital Asset Pricing (CAPM), which were developed later and are currently popular in rate-base/rate-of-return regulation. Consequently, the comparable earnings model has a longer regulatory and judicial history. However, it has far greater relevance now than ever before in its history because significant deregulation has substantially increased natural gas utilities' investment risk to a level similar to that of non-utility firms. As a result, it is

Comparable Earnings *from page 4*

more important than ever to look to similar-risk non-utility firms for insight into common equity cost rate, especially in view of the deficiencies inherent in the currently popular market-based cost of common equity models, particularly the DCF model.

Despite the fact that the landmark decisions are still regarded as having set the standards for determining a fair rate of return, the comparable earnings model has experienced decreased usage by expert witnesses, as well as less regulatory acceptance over the years. We believe the decline in the popularity of the comparable earnings model, in large measure, is attributable to the difficulty of selecting non-utility proxy firms that regulators will accept as comparable to the target utility. Regulatory acceptance is difficult to gain when the selection process is arbitrary. Our application of the model is objective and consistent with fundamental financial tenets.

Principles of Comparable Earnings

Regulation is a substitute for the competition of the marketplace. Moreover, regulated public utilities compete in the capital markets with all firms, including unregulated non-utilities. The comparable earnings model is based upon the opportunity cost principle; i.e., that the true cost of an investment is the return that could have been earned on the next best available alternative investment of similar risk. Consequently, the comparable earnings model is consistent with regulatory and financial principles, as it is a surrogate for the competition of the marketplace, and investors seek the greatest available rate of return for bearing similar risk.

The selection of comparable firms is the most difficult step in applying the comparable earnings model, as noted by Phillips[2] as well as by Bonbright, Danielsen and Kamerschen.[3] The selection of non-utility proxy firms should result in a sufficiently broad-based group in order to minimize the effect of company-specific aberrations. However, if the selection process is arbitrary, it likely would result in a proxy group that is too broad-based, such as the Standard & Poor's 500 Composite Index or the Value Line Industrial Composite. The use of such groups would require subjective adjustments to the comparable earnings results to reflect risk differences between the group(s) and the target utility, a gas pipeline company in this example.

Authors' Selection Criteria

We base the selection of comparable non-utility firms on market-based, objective, quantitative measures of risk resulting from market prices that subsume investors' assessments of all elements of risk. Thus, our approach is based upon the principle of risk and return; namely, that firms of comparable risk should be expected to earn comparable returns. It is also consistent with the "corresponding risk" standard established in *Bluefield* and *Hope*. We measure total investment risk as the sum of non-diversifiable systematic and diversifiable unsystematic risk. We use the unadjusted beta as a measure of systematic risk and the standard error of the estimate (residual standard error) as a measure of unsystematic risk. Both the unadjusted beta and the residual standard error are derived from a regression of the target utility's security returns relative to the market's returns, which takes the general form:

$$r_{it} = a_i + b_i r_{mt} + e_{it}$$

where:

- r_{it} = tth observation of the ith utility's rate of return
- r_{mt} = tth observation of the market's rate of return
- e_{it} = tth random error term
- a_i = constant least-squares regression coefficient
- b_i = least-squares regression slope coefficient, the unadjusted beta.

As shown by Francis,[4] the total variation or risk of a firm's return, Var (r_i), comes from two sources:

Var (r_i)= total risk of ith asset

$= \text{var}(a_i + b_i r_m + e)$
substituting $(a_i + b_i r_m + e)$ for r_i
$= \text{var}(b_i r_m) + \text{var}(e)$ since $\text{var}(a_i) = 0$
$= b_i^2 \text{var}(r_m) + \text{var}(e)$ since $\text{var}(b_i r_m) = b_i^2 \text{var}(r_m)$
= systematic + unsystematic risk

Francis[5] also notes: "The term $\sigma^2(r_i|r_m)$ is called the *residual variance around the regression line* in statistical terms or *unsystematic risk* in capital market theory language. $\sigma^2 (r_i|r_m) = \ldots = \text{var}(e)$. The residual variance is the squared standard error in regression language, a measure of unsystematic risk." Application of these criteria results in a group of non-utility firms whose average total investment risk is indeed comparable to that of the target gas pipeline.

As a measure of systematic risk, we use the Value Line unadjusted beta. Beta measures the extent to which market-wide or macro-economic events affect a firm's stock price. We use the unadjusted beta of the target utility as a starting point because it results from the regression of the target utility's security returns relative to the market's returns. Thus, the resulting standard deviation of beta relates to the unadjusted beta. We use the standard deviation of the unadjusted beta to determine the range around it as the selection criterion based on systematic risk.

We use the residual standard error of the regression as a measure of unsystematic risk. The residual standard error reflects the extent to which events specific to the firm's operations affect a firm's stock price. Thus, it is a measure of diversifiable, unsystematic, firm-specific risk.

An Illustration of Authors' Approach

Step One: We begin our approach by establishing the selection criteria as a range of both unadjusted beta and residual standard error of the target gas

continued on page 6

Comparable Earnings *from page 5*

pipeline company.

As shown in table 1, our target gas pipeline company has a Value Line unadjusted beta of 0.90, whose standard deviation is 0.1250. The selection criterion range of unadjusted beta is the unadjusted beta plus (+) and minus (-) three of its standard deviations. By using three standard deviations, 99.73 percent of the comparable unadjusted betas is captured.

Three standard deviations of the target utility's unadjusted beta equals 0.38 (0.1250 x 3 = 0.3750, rounded to 0.38). Consequently, the range of unadjusted betas to be used as a selection criteria is 0.52 - 1.28 (0.52 = 0.90 - 0.38) and (1.28 = 0.90 + 0.38).

Likewise, the selection criterion range of residual standard error equals the residual standard error plus (+) and minus (-) three of its standard deviations. The standard deviation of the residual standard error is defined as: $\sigma/\sqrt{2N}$.

As also shown in table 1, the target gas pipeline company has a residual standard error of 3.7867. According to the above formula, the standard deviation of the residual standard error would be 0.1664 (0.1664 = 3.7867/$\sqrt{2(259)}$ = 3.7867/22.7596, where 259 = N, the number of weekly price change observations over a period of five years). Three standard deviations of the target utility's residual standard error would be 0.4992 (0.1664 x 3 = .4992). Consequently, the range of residual standard errors to be used as a selection criterion is 3.2875 - 4.2859 (3.2875 = 3.7867 - 0.4992) and (4.2859 = 3.7867 + 0.4992).

Step Two: The step one criteria are applied to Value Line's data base of nearly 4,000 firms for which Value Line derives unadjusted betas and residual standard errors on a weekly basis. All firms with unadjusted betas and residual standard errors within the criteria ranges are then selected.

Step Three: In the regulatory ratemaking environment, authorized common equity return rates are applied to a book-value rate base. Thus, the earnings rates on book common equity, or net worth, of competitive, non-utility firms are highly relevant provided those firms are indeed comparable in total risk to the target gas pipeline. The use of the return rates of other utilities has no relevance because their allowed, and hence subsequently achieved, earnings rates are dependent upon the regulatory

table 1

Summary of the Comparable Earnings Analysis for the Proxy Group of 248 Non-Utility Companies Comparable in Total Risk to the Target Gas Pipeline Company[1]

	1	2	3	4	5	6	7	8
			residual	rate of return on net worth				
	adj. beta	unadj. beta	standard error	3-year average[2]	4-year average[2]	5-year average[2]	5-year projected[3]	
average for the proxy group of 248 non-utility companies comparable in total risk to the target gas pipeline company	0.97	0.92	3.7705					
target gas pipeline company	0.96	0.90[4]	3.7867					
median				11.7%	12.0%	12.6%	15.5%	
average of the median historical returns					12.1%			
conclusion[5]								13.8%

[1] The criteria for selection of the non-utility group was that the non-utility companies be domestic and included in *Value Line Investment Survey*. The non-utility group was selected based on an unadjusted beta range of 0.52 to 1.28 and a residual standard error range of 3.2875 to 4.2859.
[2] Ending 1992.
[3] 1996-1998/1997-1999.
[4] The average standard deviation of the target gas pipeline company's unadjusted beta is 0.1250.
[5] Equal weight given to both the average of the 3-, 4- and 5-year historical medians (12.1%) and 5-year projected median rate of return on net worth (15.5%). Thus, 13.8% = (12.1% + 15.5% / 2).
Source: Value Line Inc., March 15, 1994
Value Line Investment Survey

Comparable Earnings *from page 6*

process. Consequently, we believe all utilities must be eliminated to avoid circularity. Moreover, we believe non-domestic firms must be eliminated because their reporting methods differ significantly from U.S. firms.

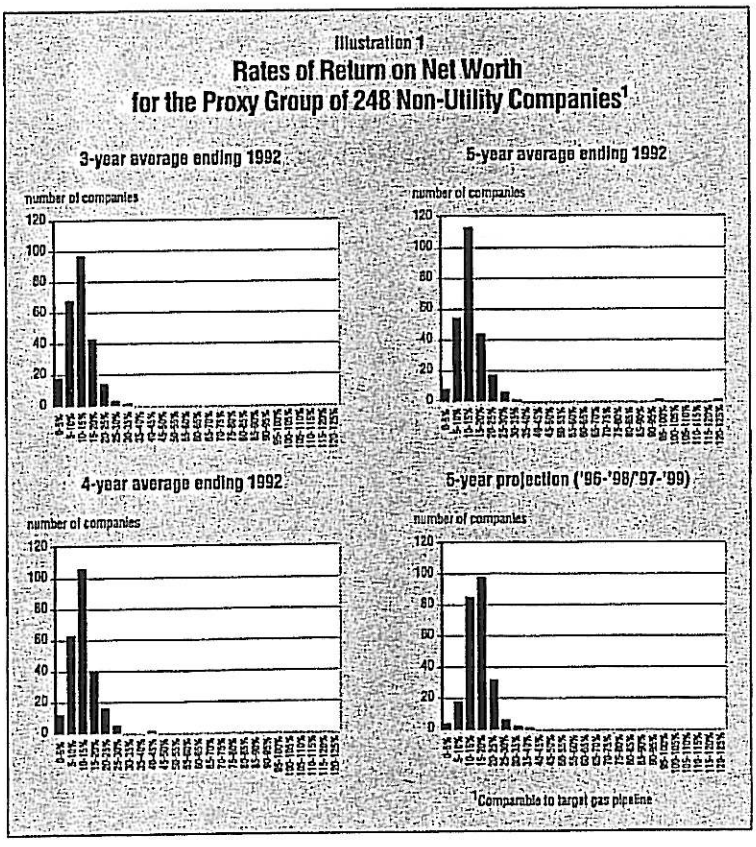
Step Four: We then eliminated those firms for which Value Line does not publish a "Ratings & Report" in *Value Line Investment Survey* so that the historical and projected returns on net worth[6] are from a consistent source. We use historical returns on net worth for the most recent five years, as well as those projected three to five years into the future. We believe it is logical to evaluate both historical and projected return rates because it is reasonable to assume that investors avail themselves of both when they are available from widely disseminated information services, such as Value Line Inc. The use of Value Line's return rates on net worth understates the common equity return rates for two reasons. First, preferred stock is included in net worth. Second, the net worth return rates are as of the end of each period. Thus, the use of average common equity return rates would yield higher results.

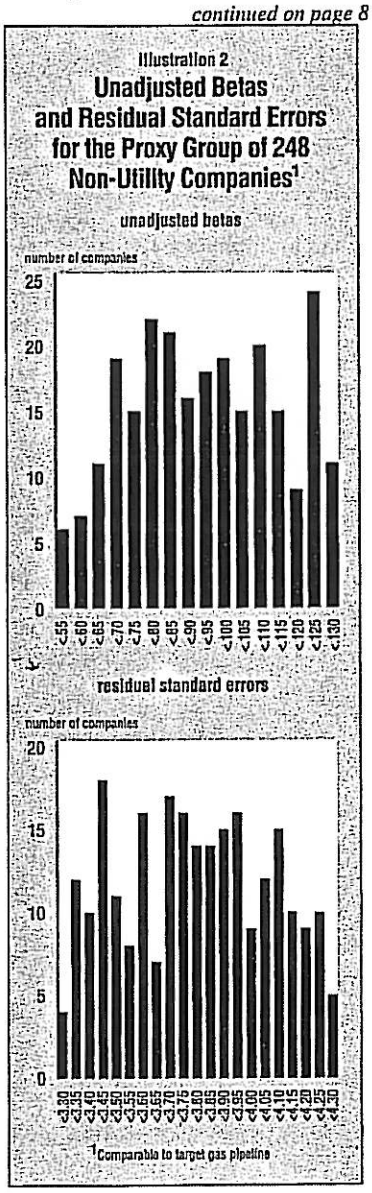
Step Five: Median returns based on the historical average three, four and five years ending 1992 and projected 1996-1998 or 1997-1999 rates of return on net worth are then determined as shown in columns 4 through 7 of table 1. The median is used due to the wide variations and skewness in rates of return on net worth for the non-utility firms as evidenced by the frequency distributions of those returns as shown in illustration 1.

However, we show the average unadjusted beta, 0.92, and residual standard error, 3.7705, for the proxy group in columns 2 and 3 of table 1 because their frequency distributions are not significantly skewed, as shown in illustration 2.

Step Six: Our conclusion of a com-

continued on page 8





Comparable Earnings *from page 7*

parable earnings cost rate is based upon the mid-point of the average of the median three-, four- and five-year historical rates of return on net worth of 12.1 percent as shown in column 5 and the median projected 1996-1998/1997-1999 rate of return on net worth of 15.5 percent as shown in column 7 of table 1. As shown in column 8, it is 13.8 percent.

Summary

Our comparable earnings approach demonstrates that it is possible to select a proxy group of non-utility firms that is comparable in total risk to a target utility. In our example, the 13.8 percent comparable earnings cost rate is very conservative as it is an expected achieved rate on book common equity (a regulatory allowed rate should be greater) and because it is based on end-of-period net worth. A similar rate on average net worth would be about 20 to 40 basis points higher (i.e., 14.0 to 14.2 percent) and still understate the appropriate regulatory allowed rate of return on book common equity.

Our selection criteria are based upon measures of systematic and unsystematic risk, specifically unadjusted beta and residual standard error. They provide the basis for the objective selection of comparable non-utility firms. Our selection criteria rely on changes in market prices over approximately five years. We compare the aggregate total risk, or the sum of systematic and unsystematic risk, which reflects investors' aggregate assessment of both business and financial risk. Thus, no adjustments are necessary to the proxy group results to compensate for the differences in business risk and financial risk, such as accounting practices and debt/equity ratios. Moreover, it is inappropriate to attempt a comparison of the target utility with any individual firm, or subset of firms, in the proxy group because only the average firm of the group is relevant.

Because the comparable earnings model is firmly anchored in the "corresponding risk" precept established in the landmark court decisions, it is worthy of consideration as a principal model for use in estimating the cost rate of common equity capital of a regulated utility. Our approach to the comparable earnings model produces a proxy group that is indeed comparable in total risk because the selection process is objective and quantitative. It therefore overcomes criticism linked to arbitrary selection processes.

All cost-of-common-equity models, including the DCF and CAPM, are fraught with deficiencies, usually stemming from the many necessary but unrealistic assumptions that underlie them. The effects of the deficiencies of individual models can be mitigated by using more than one model when estimating a utility's common equity cost rate. Therefore, when the non-comparability issue is overcome, the comparable earnings model deserves to receive the same consideration as a primary model, as do the currently popular market-based models. ■

[1] *Bluefield Water Works Improvement Co. v. Public Service Commission*, 262 U.S. 679 (1922) and *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 519 (1944).

[2] Charles F. Phillips Jr., The Regulation of Public Utilities: Theory and Practice, Public Utilities Reports Inc., 1988, p. 379.

[3] James C. Bonbright, Albert L. Danielsen and David R. Kamerschen, Principles of Public Utilities Rates, 2nd edition, Public Utilities Reports Inc. 1988, p. 329.

[4] Jack Clark Francis, Investments: Analysis and Management, 3rd edition, McGraw-Hill Book Co., 1980, p. 363.

[5] Id., p. 548.

[6] Returns on net worth must be used when relying on Value Line data because returns on book common equity for non-utility firms are not available from Value Line.

Report Lists Pipeline, Storage Projects

More than $9 billion worth of projects to expand the nation's natural gas pipeline network are in various stages of development, according to an A.G.A. report. These projects involve nearly 8,000 miles of new pipelines and capacity additions to existing lines and represent 15.3 billion cubic feet (Bcf) per day of new pipeline capacity.

During 1993 and early 1994, construction on 3,100 miles of pipeline was completed or under way, at a cost of nearly $4 billion, says A.G.A. These projects are adding 5.4 Bcf in daily delivery capacity nationwide.

Among the projects completed in 1993 were Pacific Gas Transmission Co.'s 805 miles of looping that allows increased deliveries of Canadian gas to the West Coast; Northwest Pipeline Corp.'s addition of 433 million cubic feet of daily capacity for customers in the Pacific Northwest and Rocky Mountain areas; and the 156-mile Empire State Pipeline in New York.

In addition, major construction projects were started on the systems of Texas Eastern Transmission Corp. and Algonquin Gas Transmission Co. — both subsidiaries of Panhandle Eastern Corp. — and along Florida Gas Transmission Co.'s pipeline.

The report goes on to discuss another $5 billion in proposed projects, which, if completed, will add nearly 5,000 miles of pipeline and 9.8 Bcf per day in capacity, much of it serving Florida and West Coast markets.

A.G.A. also identifies 47 storage projects and says that if all of them are built, existing storage capacity will increase by more than 500 Bcf, or 15 percent.

For a copy of *New Pipeline Construction: Status Report 1993-94* (#F00103), call A.G.A. at (703) 841-8490. Price per copy is $6 for employees of member companies and associates and $12 for other customers.

CERTIFICATE OF SERVICE

The undersigned employee of Elliott & Elliott, P.A. does hereby certify that she has served below listed parties with a copy of the pleading(s) indicated below by mailing a copy of same to them in the United States mail, by regular mail, with sufficient postage affixed thereto and return address clearly marked on the date indicated below:

RE: Application of Tega Cay Water Service, Inc. for Adjustment of Rates and Charges and Modifications to Certain Terms and Conditions for the Provision of Water and Sewer Service

Docket No. 2012-177-WS

PARTIES SERVED:

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PLEADING:

Rebuttal Testimony of Steven M. Lubertozzi
Rebuttal Testimony of Karen L. Sasic with Exhibit 1
Rebuttal Testimony of Pauline M. Ahern with Exhibit 1

December 14, 2012

MaryJo Lawracy
Legal Assistant